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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

A FISH CALLED TRANSGENIC

Researchers at Auburn University's fisheries research program have used genetic engineering to transfer a growth hormone gene from rainbow trout into carp and are ready to place the fry in specially constructed outdoor ponds, pending public comments. Transgenic research, whether on fish, farm animals, or crops, usually means transferring a gene from one species to another.

The goal of the carp research is to determine if transgenic fish pass the growth hormone gene from one generation to the next and to observe how the gene affects the development of the fish. Through such experiments involving the new techniques of biotechnology, researchers hope to improve fish species used for commercial aquaculture.

USDA reviewed the proposal and decided the experiment presents no significant risk to the environment. The environmental assessment and the proposed "finding of no significant impact" appear in the February 16, 1990 Federal Register. Copies are available at most public libraries, or call USDA's Office of Agricultural Biotechnology (OAB) at 202-447-9165 to receive one at no charge. Public comments should be sent to OAB before March 19, 1990.

YOUNG MEETS WITH EUROPEAN AG OFFICIALS

Alvin Young, Director of OAB, met with biotechnology experts and senior agriculture officials in France, West Germany, Belgium, and The Netherlands. This issue of Biotechnology Notes spotlights meetings held in France; upcoming issues will cover events in the other countries.

Young, accompanied by Martha Steinbock, international affairs specialist, met with Pierre Mauleon, scientific director of the National Institutes for Agricultural Research (INRA). INRA supports a strong agricultural research program and has about 30 research laboratories throughout France and the Caribbean.

Young and Steinbock visited the INRA plant biotech lab in Versailles. There, researchers are using rDNA to improve various crops such as endive, lettuce, potato, rapeseed, and tomato. Biotech is also being used as a tool to learn more about plant physiology such as how plants use nitrogen. At the animal biotech facility in

Jouy-En-Josas, scientists are using rabbits to produce precious proteins or to conduct population and microbial genetic studies. Young confirmed that both the plant and animal labs use state-of-the-art equipment and have highly experienced researchers well-versed in the latest advances.

France is field testing many products and some firms are now moving into the precommercialization phase of product development. A national biosafety review committee under the Ministry of Agriculture reviews and approves all field tests. To date, 38 have been approved, some at dual locations and using two components, each with a different gene.

According to Gilles Pelsy, special advisor to the Minister of Agriculture for Scientific Affairs, the products of biotechnology will be reviewed under existing French statutes. Pelsy says he sees a positive atmosphere in Europe toward biotechnology and is very optimistic about its future.

BRINGING BIOTECH TO DEVELOPING NATIONS

The Animal and Plant Health Inspection Service's (APHIS) Biotechnology, Biologics, and Environmental Protection (BBEP) unit will be assisting the Agency for International Development (AID) to incorporate biological and environmental safety procedures for field testing transgenic rice and other crops and microbes for developing countries in research projects funded by the agencies (USDA-AID). Genetically modified species of rice are intended to be more nutritious and to resist insects, diseases, and poor soil conditions.

NEW BIOTECH COUNCIL PROPOSED

As reported in the October 1989 issue of Biotechnology Notes, USDA's Committee on Biotechnology (CBA) is in the process of being renewed for 2 more years. Under the proposed new charter, a newly-formed subcommittee called the Biotechnology Council, would report to the CBA. The Council would be chaired by OAB Director Alvin Young and "provide a Departmental forum, at the senior staff level, for the communication and coordination of USDA biotechnology activities and for the discussion and development of recommendations concerning pending biotechnology issues."

Council members would represent the Agricultural Research Service, APHIS, the Cooperative State Research Service, the Food Safety and Inspection Service, the Economic Research Service, the Forest Service, the Agricultural Marketing Service, the Extension Service, the Foreign Agricultural Service, the Office of International Cooperation and Development, and the Office of Public Affairs. Council members would meet monthly to review biotechnology issues and develop recommendations, if appropriate.

RESEARCH GUIDELINES WORKING GROUP MEETS

Oversight provisions, classification of organisms, confinement principles, and definition of contained facilities were a few of the topics discussed February 27-28 in Washington, D.C. by members of a working group of USDA's Agricultural Biotechnology Research Advisory Committee. Attendees analyzed both the USDA proposed research

guidelines and the National Institutes of Health's (NIH) guidelines, to eliminate any overlap or confusion. Representing the NIH was Nelson Wivel, acting director of the Office of Recombinant DNA Research. Charles Hess, USDA Assistant Secretary for Science and Education, participated in the discussion concerning which organisms should be included in the scope of the guidelines.

CONFERENCE IN BRAZIL FOCUSES ON GUIDELINES

"The Preparation of Guidelines for Latin America and the Caribbean on the Release into the Environment of Products and Organisms Created or Modified by Genetic Engineering" is the topic of an international conference of the Inter-American Study Group on the New Biotechnology in Agriculture and Health, May 29-June 1, in Brasilia, Brazil. Sponsored by the Inter-American Institute for Cooperation on Agriculture and the Pan American Health Organization, this meeting brings together international experts to analyze and discuss a proposal on guidelines for Latin America and the Caribbean area on the release into the environment of biotechnology-derived products and organisms.

Terry Medley, director of APHIS's BBEP unit, has been invited to attend the meeting and will give a presentation on the Good Developmental Practices prepared by the Organization for Economic Cooperation and Development. Other speakers will discuss ecological risks, field testing experiences around the world, and regulations.

FIRST TRANSGENIC SMALL-GRAIN CROPS MAY SOON BE FIELD TESTED

Until now, field tests of genetically engineered crops were conducted as the first step toward commercialization. Early field tests were needed to see if the techniques that worked in the laboratory and greenhouse held up outdoors in the natural environment. The crops used -- tobacco, tomato, etc. -- were specifically selected as models because their genetic history had been so well documented. Now with the success of these field tests over the last 5 years, and a wealth of new scientific information, researchers are ready to move to the next step -- the actual development of commercial crops.

The first small-grains in line to be field tested are rice and corn. Louisiana State University has applied to APHIS for a permit to field test transgenic rice; Biotechnica Inc. would like to field test transgenic corn. Corn and rice are two of the three most important agricultural crops in the world (the third being wheat). If the applications are approved, outdoor tests could begin this spring.

BIOTECH/RESEARCH ISSUE TEAM UP AND RUNNING

If assessing environmental risks, developing regulations and guidelines, or evaluating the socio-economic impacts of biotechnology sound like formidable tasks, try explaining these issues to the general community. But USDA's new Public Affairs Issue Team for Research and Biotechnology, organized by the Office of Public Affairs (OPA), is planning to do just that.

The team is comprised mostly of public affairs professionals from about nine agencies. The group has been asked to review public affairs strategies and programs,

identify important issues, and develop and implement ways of communicating the issues to the public. According to OPA Director Paul Kindinger, this new approach "integrates policy and public affairs all along the way and not just during the final stages of implementation."

Jack Jenkins chairs the team, in addition to his other duties as the Secretary's speech writer. He will represent OPA on the Policy Working Group for the Commercialization of Industrial Ag Products, which coordinates research, development, and marketing uses of agricultural products.

APHIS CONFERENCE FOCUSES ON BIOTECH DATA

The second national conference on Federal and state regulation of biotechnology, as reported in the February issue of Biotechnology Notes, will take place in Sacramento, Calif., July 10-12. Sponsored by APHIS, the meeting will focus on analyzing data prior to issuing a permit, international exchanges of data, and how to balance proprietary information with public disclosure. Other topics include an update on the status of biotechnology regulation at the Federal and state levels; reports on regulatory developments in Japan, Mexico, Canada, and the European Community; and a description of newly developed experimental plants and transgenic animals. Concurrent workshops will cover confidential business information, data and risk analysis for field test applications, and state notification and review procedures for field tests. For more information, or to register, call Shirley Ingebritsen at 301-436-5874/7602.

NEWS AROUND THE COUNTRY (AND THE WORLD)

ANNUAL MEETING TO HIGHLIGHT FIELD TESTING

The July 30-31 annual meeting of the north central branch of the American Society of Agronomy in St. Paul, Minnesota, includes a special one-half day session devoted to biotechnology field testing. Called "Getting Biotech into the Field," the session covers recent developments in policy, regulations, data gathering techniques, and public attitudes. A case study will be presented as well as a guided tour of a local biotech field trial. For more details, call either Ron Phillips at the University of Minnesota (612-625-1213) or Marti Asner at USDA (202-447-9165).

FIFRA, SHMIFRA . . . WHAT'S IT ALL ABOUT?

Acronym overload is one side effect of living in an age filled with so much information. So often our minds become muddled with a virtual alphabet soup of letters. It's time to clear out some of the debris, and return to a few basics. FIFRA and TSCA are two old stand-bys, and as good a place to start as any.

FIFRA (The Federal Insecticide, Fungicide, and Rodenticide Act):

The basic goal of FIFRA is to ensure pesticides used in the United States do not present unreasonable risk. FIFRA defines a pesticide as "any substance or mixture of

substances intended for preventing, destroying, repelling, or mitigating any pest; and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant." The "ice-minus" bacteria used to prevent frost was ruled a pesticide because, according to the definition of pesticide, it "mitigated" the effect of the "ice-plus" bacteria by competing for its place in the environment.

The law requires manufacturers to register their products with the Environmental Protection Agency (EPA) before commercial distribution. Currently, EPA is developing a new set of biotechnology regulations and may use FIFRA as the basis for these new laws.

TSCA (The Toxic Substances Control Act):

Public concern in the 1960's and 1970's over risks posed by thousands of chemicals sold in the United States led Congress to pass this law, which went into effect January 1, 1977. It was intended to fill the gap left by other laws, such as FIFRA and the Food, Drug, and Cosmetic Act, which focused on specific products. While FIFRA is concerned only with pesticides, TSCA focuses on chemicals.

Since 1983 EPA has interpreted microorganisms to be chemical substances and under the jurisdiction of TSCA. This interpretation of the application of TSCA to life forms has been the subject of debate by scientists and lawyers.

RAC DISCUSSES FUTURE ROLE

At its February 5 meeting, the NIH Recombinant DNA Advisory Committee (RAC) discussed, among other issues, its role in the genetic engineering arena. Guest speaker Donald Frederickson noted there have not been any accidents during the 15 years the guidelines have been in effect, and that perhaps the current guidelines should be re-evaluated. However, others argued that the role of the RAC should be expanded to include a broader range of genetic research. Further debate will take place at about four or five public meetings to be held this year around the country.

IN CASE YOU WEREN'T THERE

- Speaking at the Southern Agricultural Economics Association meeting February 7 in Little Rock, Arkansas, OAB director Alvin Young discussed the role of economic research in agricultural biotechnology. He stressed the need for more economic analyses that are conducted during the initial goal setting phase of research and again at the end when each class of products begins to enter the marketplace. Such an approach, says Young, will provide policymakers with more data before making important decisions.

NEW PUBLICATIONS

- Proceedings of an international seminar entitled "The Safety of Agricultural Biotechnology," held September 27, 1989, in Gent, Belgium. To order a copy, write to Guido Boeken, Plant Genetic Systems, Jozef Plateaustraat 22, B9000, Gent, Belgium.

UPCOMING MEETINGS

March 7-8: "Safe and Healthy Eating: New Policies to Restore Public Confidence. Sponsored by Public Voice for Food and Health Policy in cooperation with the National Food Processors Association. Call 202-659-5930.

March 11-14: "Trends in Biotechnology." Stockholm, Sweden. Sponsored by the Swedish Council for Forestry and Agricultural Research and the Swedish rDNA Advisory Committee. For details, write to the Swedish Council for Forestry and Agricultural Research, Odengatan 61, S-113 22 Stockholm, Sweden; or call 46-8-7360910. The FAX number is 46-8-332915.

March 14: "Bovine Somatotropin: Biotechnology and New England's Declining Dairy Industry" will be discussed at a seminar hosted by Tufts University School of Veterinary Medicine. The seminar will be held from 8:30 a.m. to 12:30 p.m. in the DeBlois Auditorium of the Arthur M. Sackler Center for Health Communications, 145 Harrison Ave., Boston, Mass. The seminar is free. Pre-register by calling 508-839-5302, ext. 4750.

March 14-16: Conference on "Commercializing Industrial Uses for Agricultural Commodities." Washington, D.C. For details, call 202-331-4212.

March 15: "Strategic Planning and Management for the Biotechnology Firm," a lecture given by William Washecka of Ernst & Young. Sponsored by the Montgomery County, Maryland's High Technology Council. Gaithersburg, Md. Call 301-762-6325.

March 19-21: A Workshop on Protecting Your Biotechnological Intellectual Property. Cambridge, Mass. Write to Elaine Bower, Department of Engineering Professional Development. University of Wisconsin-Madison, 432 N. Lake St., Madison, Wisc. 53706.

March 22-23: Meeting of USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC). Washington, D.C. A few of the proposed agenda items include introduction of new members, a report on Clemson University field tests, and updates on the research guidelines and Auburn University's proposed experiment using transgenic carp. The meeting takes place at 901 D street, S.W. (The Aerospace Building), in Room 338-C. It begins at 9:00 a.m. both days but adjourns at 5:00 p.m. on March 22 and at 3:00 p.m. on March 23. This meeting is open to the public. For more details, call the OAB at 202-447-9165.

April 2: The French Presence in Biotechnology Worldwide. Los Angeles, Calif. Write to Barbara Hearn, French-American Chamber of Commerce Los Angeles, Inc., 6380 Wilshire Blvd., Suite 1608, Los Angeles, Calif. 90048.

April 3-5: "AgTechnology '90: The Decade Ahead." Conference focuses on plant and animal biotechnology, new information systems, and the latest in products and services for high-tech ag companies and labs. Write to Freiberg Publishing Co., P.O. Box 7, Cedar Falls, Iowa 50613.

April 8-10: "Mapping Domestic Animal Genomes: Needs and Opportunities." University of Illinois at Urbana. Call 217-244-5616.

April 9-12: Plant Resistance to Insects: Toward a More Sustainable Agriculture. To be held at the Maryland Continuing Education Center, College Park, Md. Write to B.R. Wiseman, USDA-Agricultural Research Service, P.O. Box 748, Tifton, Ga. 31793; or call 912-382-6904.

April 19: "Trade Opportunities for Biotechnology Firms Abroad." Gaithersburg, Md. Sponsored by Montgomery County, Maryland's High Technology Council. Call 301-762-6325.

April 23-27: Novel Strategies in Production and Recovery of Biologicals from Recombinant Microorganisms and Animal Cells. Eilat, Israel. Write to Secretariat, OHOL0 Biological Conference, P.O. Box 19, Ness-Ziona 70450, Israel.

April 30-May 1: "Bridging the Gap Between Universities and Industry" is the theme of the Fourth Annual Conference on Commercialization of Biotechnology, sponsored by the Michigan Biotechnology Institute, and held in Lansing, Mich. Sessions include industrial and environmental biotechnology, food and agricultural biotechnology, medical biotechnology, and university resources available to industry. To register, write to Michigan Biotechnology Institute, P.O. Box 27609, Lansing, Mich. 48909-9850.

May 13: "Field Testing Transgenic Rice: Biosafety Issues." Manila, Philippines. Meeting held in conjunction with the Second International Rice Genetics Symposium and the Annual Meeting of the Rice Biotechnology Network supported by the Rockefeller Foundation. The objective of the workshop is to coordinate biotech research on biological nitrogen fixation in rice farming systems and to develop regulatory guidelines for field testing transgenic rice. For details, call S.K. Dutta, international coordinator, Howard University, Washington, D.C., 202-636-6942.

May 23-25: Fourth International Biotechnology Meeting. Toronto, Ontario, Canada. Sponsored by the Association of Biotechnology Companies. For details, call 202-842-2229.

May 29-June 1: International Conference on Issues in Food Safety and Toxicology. Michigan State University, East Lansing, Mich. Sponsored by the Center for Environmental Toxicology. Call 517-355-4466.

Biotechnology Notes is written and edited by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for items to include in future issues are always appreciated and may be sent to USDA/OAB, Room 321-A, Administration Bldg., 14th and Independence Ave., S.W., Washington, D.C. 20250; or call 202-447-9165. The FAX number is 202-475-6298.

AMERICAN SOCIETY OF AGRONOMY
NORTH CENTRAL BRANCH
ANNUAL MEETING

UNIVERSITY OF MINNESOTA
ST. PAUL, MN

JULY 30-31, 1990

FEATURING:

- Special 1/2-day session on "Getting Biotech Into the Field"
- Guided tour of biotech field trial now in progress
- Demonstration of how artificial intelligence can help with guidelines and regulations

*Contact: Ron Phillips, University of Minnesota, 612-625-1213
or
Marti Asner, USDA, 202-447-9165*